UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,972	04/11/2001	Hideyuki Furuichi	FQ5-542	8259

466 7590 01/04/2005

YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER	
HO, CHUONG T	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/829,972	FURUICHI, HIDEYUKI
	Examiner	Art Unit
	Chuong Ho	2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 1-17 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 2-6, 12, 14, 15-16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. (U.S.Patent No. 6,466,576 B2) in view of Sakamoto et al. (U.S.Patent No. 6,075,767).

In the claim 2, Sekine et al, see figure 2, discloses the reducing unit 26a connected to the port for connecting a working line WL equal to a reception line of a presently operable system. The reducing unit 26b is connected to another port for connecting a protection line PL (redundant) equal to another reception line of a spare operation system. The first-mentioned reducing unit 26a may constitute a reducing unit ACT, and the second-mentioned reducing unit 26b may constitute a reducing unit SBY (redundant) (see col. 7, lines 20-25); The IVC (DEVICE) unit 14 receives the cell from the MUX 13, and converts the I-ICID-A stored into the header of the cell into address information of a counter party (transfer destination). The IVC unit 14 (DEVICE) is integrally formed by a converting circuit for performing a cell header converting operation, and a processor apparatus for executing a firmware used to perform a setting operation related to this cell header converting operation. Upon receipt of the cell from

the MUX 13, the IVC unit 14 (DEVICE) firstly converts the I-ICID-A stored in the header of this cell into an ICID-D (see col. 8, lines 13-18); comprising:

A header conversion table (IVC unit 14) storing header conversion information for each of at least one line interface (WL, PL); and a header converter for converting the header of a packet received from the reserved line interface (PL) selected by the selector (cell monitoring unit 41) by referring to the header conversion information for the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18);

A selector (the cell monitoring unit 41) for normally selecting a corresponding line interface to receive a packet stream and, when a failure occurs on a system corresponding to the corresponding line interface, selecting the reserved (PL) line interface to receive the packet stream (see col. 7, lines 9-12, the cell monitoring unit 41 judges as to whether or not a received cell contained an abnormal (failure) condition), and then notifies this judgment result to the APS managing unit 40. Thereafter, the cell monitoring unit 41 transfer the cell to the SCAM 12a, or 12b connected to this cell monitoring unit 41).

However, Sekine et al. is silent to disclosing at least one line interface, a reserved line interface corresponding to each of at least one line interface.

Sakamoto et al. (see figures 5, 4) discloses at least one line interface (1-1, 1-2), a reserved line interface (1-2) corresponding to each of at least one line interface (1-1) (see figure 5);

A selector (5 or 4) for normally selecting a corresponding line interface (1-1) to receive a packet stream and, when a failure occurs on a system corresponding to the

corresponding line interface, selecting the reserved line interface (1-2) to receive the packet stream (in a case in which the transmission path is required to be switched over because of, for example, a failure detected in a transmission path on the active system side, a predetermined switchover, or a system maintenance, a system switchover order is notified to the selector 9 according to an order from network management function 5 or a decision of the control part 4).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sekine with the teaching of Sakamoto to provide at least one line interface in order to receive a stream cells from either working path or protection path. Therefore, the combined system would have been switched over in a failure detected in a working transmission path.

2. In the claim 1, Sekine et al, see figure 2, discloses the reducing unit 26a connected to the port for connecting a working line WL equal to a reception line of a presently operable system. The reducing unit 26b is connected to another port for connecting a protection line PL (redundant) equal to another reception line of a spare operation system. The first-mentioned reducing unit 26a may constitute a reducing unit ACT, and the second-mentioned reducing unit 26b may constitute a reducing unit SBY (redundant) (see col. 7, lines 20-25); The IVC (DEVICE) unit 14 receives the cell from the MUX 13, and converts the I-ICID-A stored into the header of the cell into address information of a counter party (transfer destination). The IVC unit 14 (DEVICE) is integrally formed by a converting circuit for performing a cell header converting operation, and a processor apparatus for executing a firmware used to perform a setting

operation related to this cell header converting operation. Upon receipt of the cell from the MUX 13, the IVC unit 14 (DEVICE) firstly converts the I-ICID-A stored in the header of this cell into an ICID-D (see col. 8, lines 13-18); comprising:

A header conversion table (IVC unit 14) storing header conversion information for each of at least one line interface (WL, PL); and a header converter for converting the header of a packet received from the reserved line interface (PL) selected by the selector (cell monitoring unit 41) by referring to the header conversion information for the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18);

A header conversion table storing a set of header conversion information for one of the redundant incoming line system (see col. 7, lines 20-25, col. 8, lines 13-18).

However, Sekine et al. is silent to disclosing redundant incoming line systems.

Sakamoto et al. (see figures 5, 4) discloses at least one line interface (1-1, 1-2), a reserved line interface (1-2) corresponding to each of at least one line interface (1-1) (see figure 5); comprising:

redundant incoming line systems (see figure 4, protection paths 15, line interface cards 1-1 to 1-N).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sekine with the teaching of Sakamoto to provide at least one line interface in order to receive a stream cells from either working path or protection path. Therefore, the combined system would have been switched over in a failure detected in a working transmission path.

3. In the claim 14, Sekine et al, see figure 2, discloses the reducing unit 26a connected to the port for connecting a working line WL equal to a reception line of a presently operable system. The reducing unit 26b is connected to another port for connecting a protection line PL (redundant) equal to another reception line of a spare operation system. The first-mentioned reducing unit 26a may constitute a reducing unit ACT, and the second-mentioned reducing unit 26b may constitute a reducing unit SBY (redundant) (see col. 7, lines 20-25); The IVC (DEVICE) unit 14 receives the cell from the MUX 13, and converts the I-ICID-A stored into the header of the cell into address information of a counter party (transfer destination). The IVC unit 14 (DEVICE) is integrally formed by a converting circuit for performing a cell header converting operation, and a processor apparatus for executing a firmware used to perform a setting operation related to this cell header converting operation. Upon receipt of the cell from the MUX 13, the IVC unit 14 (DEVICE) firstly converts the I-ICID-A stored in the header of this cell into an ICID-D (see col. 8, lines 13-18); comprising:

A header conversion table (IVC unit 14) storing header conversion information for each of at least one line interface (WL, PL); and a header converter for converting the header of a packet received from the reserved line interface (PL) selected by the selector (cell monitoring unit 41) by referring to the header conversion information for the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18);

A header conversion table storing a set of header conversion information for one of the redundant incoming line system (see col. 7, lines 20-25, col. 8, lines 13-18).

However, Sekine et al. is silent to disclosing redundant incoming line systems.

Sakamoto et al. (see figures 5, 4) discloses at least one line interface (1-1, 1-2), a reserved line interface (1-2) corresponding to each of at least one line interface (1-1) (see figure 5); comprising:

redundant incoming line systems (see figure 4, protection paths 15, line interface cards 1-1 to 1-N).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sekine with the teaching of Sakamoto to provide at least one line interface in order to receive a stream cells from either working path or protection path. Therefore, the combined system would have been switched over in a failure detected in a working transmission path.

4. In the claim 15, Sekine et al, see figure 2, discloses the reducing unit 26a connected to the port for connecting a working line WL equal to a reception line of a presently operable system. The reducing unit 26b is connected to another port for connecting a protection line PL (redundant) equal to another reception line of a spare operation system. The first-mentioned reducing unit 26a may constitute a reducing unit ACT, and the second-mentioned reducing unit 26b may constitute a reducing unit SBY (redundant) (see col. 7, lines 20-25); The IVC (DEVICE) unit 14 receives the cell from the MUX 13, and converts the I-ICID-A stored into the header of the cell into address information of a counter party (transfer destination). The IVC unit 14 (DEVICE) is integrally formed by a converting circuit for performing a cell header converting operation, and a processor apparatus for executing a firmware used to perform a setting operation related to this cell header converting operation. Upon receipt of the cell from

the MUX 13, the IVC unit 14 (DEVICE) firstly converts the I-ICID-A stored in the header of this cell into an ICID-D (see col. 8, lines 13-18); comprising:

A header conversion table (IVC unit 14) storing header conversion information for each of at least one line interface (WL, PL); and a header converter for converting the header of a packet received from the reserved line interface (PL) selected by the selector (cell monitoring unit 41) by referring to the header conversion information for the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18);

A header conversion table storing a set of header conversion information for one of the redundant incoming line system (see col. 7, lines 20-25, col. 8, lines 13-18).

However, Sekine et al. is silent to disclosing redundant incoming line systems.

Sakamoto et al. (see figures 5, 4) discloses at least one line interface (1-1, 1-2), a reserved line interface (1-2) corresponding to each of at least one line interface (1-1) (see figure 5); comprising:

redundant incoming line systems (see figure 4, protection paths 15, line interface cards 1-1 to 1-N).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sekine with the teaching of Sakamoto to provide at least one line interface in order to receive a stream cells from either working path or protection path. Therefore, the combined system would have been switched over in a failure detected in a working transmission path.

5. In the claim 17, Sekine et al, see figure 2, discloses the reducing unit 26a connected to the port for connecting a working line WL equal to a reception line of a

presently operable system. The reducing unit 26b is connected to another port for connecting a protection line PL (redundant) equal to another reception line of a spare operation system. The first-mentioned reducing unit 26a may constitute a reducing unit ACT, and the second-mentioned reducing unit 26b may constitute a reducing unit SBY (redundant) (see col. 7, lines 20-25); The IVC (DEVICE) unit 14 receives the cell from the MUX 13, and converts the I-ICID-A stored into the header of the cell into address information of a counter party (transfer destination). The IVC unit 14 (DEVICE) is integrally formed by a converting circuit for performing a cell header converting operation, and a processor apparatus for executing a firmware used to perform a setting operation related to this cell header converting operation. Upon receipt of the cell from the MUX 13, the IVC unit 14 (DEVICE) firstly converts the I-ICID-A stored in the header of this cell into an ICID-D (see col. 8, lines 13-18); comprising:

A header conversion table (IVC unit 14) storing header conversion information for each of at least one line interface (WL, PL); and a header converter for converting the header of a packet received from the reserved line interface (PL) selected by the selector (cell monitoring unit 41) by referring to the header conversion information for the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18);

A header conversion table storing a set of header conversion information for one of the redundant incoming line system (see col. 7, lines 20-25, col. 8, lines 13-18).

However, Sekine et al. is silent to disclosing redundant incoming line systems.

Sakamoto et al. (see figures 5, 4) discloses at least one line interface (1-1, 1-2), a reserved line interface (1-2) corresponding to each of at least one line interface (1-1) (see figure 5); comprising:

redundant incoming line systems (see figure 4, protection paths 15, line interface cards 1-1 to 1-N).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sekine with the teaching of Sakamoto to provide at least one line interface in order to receive a stream cells from either working path or protection path. Therefore, the combined system would have been switched over in a failure detected in a working transmission path.

6. In the claim 3, Sekine discloses wherein at least one line interface and the reserved line interface have line numbers uniquely assigned thereto, wherein a line number of each of said at least one line interface and the reserved line interface is transferred to the header converter (see col. 1, lines 20-30), wherein the header converter comprises: a line number converter for converting a line number of the reserved line interface to a line number of the corresponding line interface; and a controller for accessing the header conversion information for the corresponding line interface by using the line number of the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18).

7. In the claim 4, Sekine discloses the reserved line interface is selected by the selector due to occurrence of the failure, the line number converter converts the line

number of the reserved line interface to the line number of the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18, col. 1, lines 20-30).

8. In the claim 5, Sakamoto et al. discloses the selector is a multiplexer for multiplexing selected output of at least one line interface and the reserved line interface to produce a sequence of packets, which is transferred to the header converter.(see figures 4, 5, col. 2, lines 27-34).

9. In the claim 6, Sekine , see figure 2, discloses the multiplexer (13) transfers a line number of each of at least one line interface (26a) and the reserved line interface (26b) to the header converter (IVC unit 14) (see col. 7, lines 20-25, col. 8, lines 13-18, col. 1, lines 20-30).

10. In the claim 12, Sakamotor discloses the switch fabric is an ATM (aynchronous transfer mode) switching device (2) and the packet is an ATM cell (see figure 4).

11. Claims 7-11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. (U.S.Patent No. 6,466,576 B2) in view of Sakamoto et al. (U.S.Patent No. 6,075,767).

In the claim 7, Sekine et al, see figure 2, discloses the reducing unit 26a connected to the port for connecting a working line WL equal to a reception line of a presently operable system. The reducing unit 26b is connected to another port for connecting a protection line PL (redundant) equal to another reception line of a spare operation system. The first-mentioned reducing unit 26a may constitute a reducing unit ACT, and the second-mentioned reducing unit 26b may constitute a reducing unit SBY (redundant) (see col. 7, lines 20-25); The IVC (DEVICE) unit 14 receives the cell from

the MUX 13, and converts the I-ICID-A stored into the header of the cell into address information of a counter party (transfer destination). The IVC unit 14 (DEVICE) is integrally formed by a converting circuit for performing a cell header converting operation, and a processor apparatus for executing a firmware used to perform a setting operation related to this cell header converting operation. Upon receipt of the cell from the MUX 13, the IVC unit 14 (DEVICE) firstly converts the I-ICID-A stored in the header of this cell into an ICID-D (see col. 8, lines 13-18); comprising:

A header conversion table (IVC unit 14) storing header conversion information for each of at least one line interface (WL, PL); and a header converter for converting the header of a packet received from the reserved line interface (PL) selected by the selector (cell monitoring unit 41) by referring to the header conversion information for the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18);

A first selector (the cell monitoring unit 41) for normally selecting a corresponding line interface to receive a packet stream and, when a failure occurs on a system corresponding to the corresponding line interface, selecting the reserved (PL) line interface to receive the packet stream (see col. 7, lines 9-12, the cell monitoring unit 41 judges as to whether or not a received cell contained an abnormal (failure) condition), and then notifies this judgment result to the APS managing unit 40. Thereafter, the cell monitoring unit 41 transfer the cell to the SCAM 12a, or 12b connected to this cell monitoring unit 41).

However, Sekine et al. is silent to disclosing a second selector for normally selecting each of plurality of line interface and, when the failure occurs on the system

corresponding to the corresponding line interface, selecting the reserved line interface in place of the corresponding line interface.

Sakamoto et al. (see figures 5, 4) discloses at least one line interface (1-1, 1-2), a reserved line interface (1-2) corresponding to each of at least one line interface (1-1) (see figure 5);

A second selector (network management function 5 or a decision of the control part 4) for normally selecting a corresponding line interface (1-1) to receive a packet stream and, when a failure occurs on a system corresponding to the corresponding line interface, selecting the reserved line interface (1-2) to receive the packet stream (in a case in which the transmission path is required to be switched over because of, for example, a failure detected in a transmission path on the active system side, a predetermined switchover, or a system maintenance, a system switchover order is notified to the selector 9 according to an order from network management function 5 or a decision of the control part 4);

A plurality of line interfaces (1-1 to 1-N) connected to respective ones of incoming lines (15) (see figure 4);

A reserved line interface (protection line interface 1-2, 1-4, 1-n) (see figure 4).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sekine with the teaching of Sakamoto to provide at least one line interface in order to receive a stream cells from either working path or protection path. Therefore, the combined system would have been switched over in a failure detected in a working transmission path.

12. In the claim 8, Sekine discloses wherein at least one line interface and the reserved line interface have line numbers uniquely assigned thereto, wherein a line number of each of said at least one line interface and the reserved line interface is transferred to the header converter (see col. 1, lines 20-30), wherein the header converter comprises: a line number converter for converting a line number of the reserved line interface to a line number of the corresponding line interface; and a controller for accessing the header conversion information for the corresponding line interface by using the line number of the corresponding line interface (see col. 7, lines 20-25, col. 8, lines 13-18).

13. In the claim 9, Sakamoto discloses when the reserved line interface is selected by the second selector (4 or 5) due to occurrence of the failure, the line number converter converts the line number of the reserved line interface to the line number of the corresponding line interface (in a case in which the transmission path is required to be switched over because of, for example, a failure detected in a transmission path on the active system side, a predetermined switchover, or a system maintenance, a system switchover order is notified to the selector 9 according to an order from network management function 5 or a decision of the control part 4);

14. In the claim 10, Sakamoto et al. discloses wherein the second selector (network management function 5 or a decision of the control part 4 controls the selector 9 through control line 6, see figure 4) is a multiplexer of multiplexing selected output of the plurality of line interfaces and the reserved line interface to produce a sequence of packets, which is transfer to the header converter (see col. 2, lines 27-33, in a case in

which the transmission path is required to be switched over because of, for example, a failure detected in a transmission path on the active system side, a predetermined switchover, or a system maintenance, a system switchover order is notified to the selector 9 according to an order from network management function 5 or a decision of the control part 4);

15. In the claim 11, Sekine et al. discloses wherein the multiplexer transfers a line number of each of the plurality of line interfaces and the reserved line interfaces to the header converter (see col. 7, lines 20-25, col. 8, lines 13-18).

16. In the claim 13, Sakamoto et al. discloses wherein the switch fabric is an ATM (asynchronous transfer mode) switching device and the packet is an ATM cell (see figure 4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong ho whose telephone number is (571)272-3133. The examiner can normally be reached on Monday-Friday from 8:00AM-4:00PM.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/28/04